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A NEW GYPSOPHILOUS SPECIES OF PHACELIA (HYDROPHYLLACEAE) FROM COAHUILA, MEXICO

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Floristic studies of the Cuatro Ciénegas Basin in central Coahuila, Mexico, have revealed a new species of *Phacelia* growing on gypsum dunes and flats. This taxon is apparently restricted to the basin, adding to the list of gypsophiles only known from there: *Dyssodia gypsophila* Turner (1972a), *Gaillardia gypsophila* Turner (1972b), *Haploesthes robusta* I. M. Johnston (1941), *Machaeranthera gypsophila* Turner (1973a), and *M. restiformis* Turner (1973b).

Phacelia marshall-johnstonii Atwood and Pinkava, sp. nov. Plantae perennes 1.5–2.5 dm altae, caudicibus ligneis usque ad 1.5 cm diametro; caules 1–plures e basi erecti vel ascendentes ramificantes supra saepe viscidi et dense canescentes, pilis patulis 1–2 mm longis et pilis brevior et mollior 0.3–0.8 mm longis; folia aggregata diminuta sursum, petiolis 0.2–2.0 cm longis, laminis ovatis ad elliptica 0.8–5.5 cm longis 0.5–2.5 cm latis, margine grosse crenatis ad duple crenatis vel leviter lobatis, apicibus obtusis, basibus rotundatis ad subcordatis, utrinque dense hirsutis–viscidis; inflorescentiae terminales in axibus principalibus et ramis magnis cymarum compositarum scorpioidarum, cymae usque ad 13 cm longae in fructum; flores numerosi subsessiles; sepala elliptica ad oblanceolata usque ad 4.5 mm longa et usque ad 2 mm lata in fructum dense et grosse hirsuta–viscida; corollae caesiae albidae ad extremum 5 mm longae infundibuliformia, tubis 4 mm longis glabris, lobis 1 mm longis hirsutis extis subtiliteris; antherae globosae ca 0.5 mm diametros exsertae–longae, filamentis purpureis ca 1 cm longis glabris 0.8 mm supra basim corolla insertis, appendicibus basalibus auriculiformibus 0.7 mm longis; styli longo–

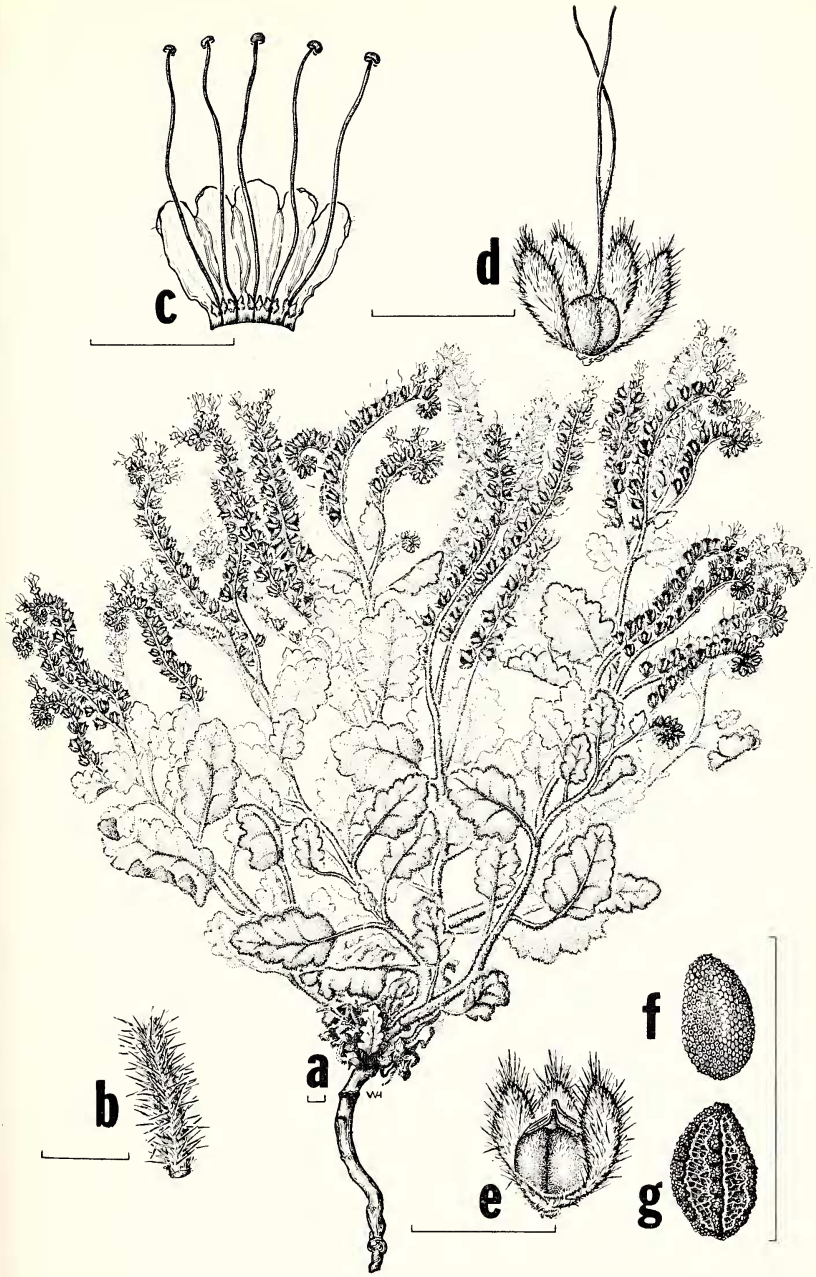

FIG. 1. *Phacelia marshall-johnstonii*. a, habit; b, stem segment enlarged; c, corolla and androecium; d, calyx and gynoecium (at flowering); e, fruit in calyx; f, seed, dorsal view; g, seed, ventral view. Illustration based on holotype. Scale line = 5 mm.

exserti stamina equantes purpurei subti pubescenti grosse pilis 0.2–0.5 mm longis; capsulae ovoidae ad subglobosae 3.0–3.5 mm longae 2.5–3.0 mm latae apice subtiliter puberulentae; semina 4 elliptica 2.0–2.5 mm longa 1.1–1.3 mm lata fusca irridescentia leviter, pagina dorsali foveolata, pagina ventralis excavata reticulata, marginibus et crista centralie ventralis corrugatis leviter.

TYPE: MEXICO: COAHUILA: Cuatro Ciénegas Basin, along new road to gypsum dunes, 0.3 miles S of Poso de la Becerra, gypsum flats with *Atriplex, Nama,* and *Sporobolus,* 15 Aug 1975, *Reeves & Pinkava P13100* (Holotype: ASU; Isotypes: BRY, ENCB, GH, MEXU, NY, LL-TEX, UC, US).

Additional materials examined: MEXICO: COAHUILA: Poso de Escobeda, grassy banks, 17 Aug 1967, *Cole, Minckley & Pinkava P4086* (ASU); Julio's Canal, 4.5 miles SSW of Cuatro Ciénegas, along roadside, 15 Aug 1967, *Cole, Minckley & Pinkava P3812* (ASU); stabilized dunes W of headwaters of El Chiqueros, 15 Aug 1967, *Cole, Minckley & Pinkava P3953* (ASU); stabilized dunes S of Laguna Grande, 8 Jun 1968, *Lehto, Keil & Pinkava P5024* (ASU); gypsum dunes, 16 km S of Cuatro Ciénegas, ca. 2 km SW of Poso y Balneario La Becerra, 26° 52′ N, 102° 09′ W, 770 m, 22 Mar 1973, *Johnston, Wendt & Chiang 10334* (LL-TEX); 19 km SW of Cuatro Ciénegas, gypsum dunes, with *Petalonyx, Sporobolus, Dasylirion,* 26° 52′ N, 102° 09′ W, 700 m, 11 Jun 1972, *Chiang, Wendt & Johnston 7649* (LL-TEX).

Phacelia marshall-johnstonii (Fig. 1) is apparently closely related to *P. pallida* I. M. Johnston of the *Phacelia* crenulatae group (Atwood, 1975), but is distinguished from that taxon by the densely canescent, harsh spreading hairs, only sparsely glandular pubescence and smaller seeds.

This species is named in honor of Professor Marshall C. Johnston, University of Texas, Austin, devoted scholar of the floras of Texas and the Chihuahuan Desert.

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